

moth *Callioratis bellatrix* was seized and rejected by a drongo, undoubtedly a young bird, judging by its plumage. [The moth, which is now in the Hope Department, has lost most of the head, but is otherwise uninjured.—E. B. P.]

13. RECORDS OF ATTACKS ON BUTTERFLIES BY WILD BIRDS IN INDIA AND CEYLON, BY COLONEL J. W. YERBURY, R.A.

[Colonel Yerbury has kindly extracted from his notes all the observations he has made bearing on this interesting question.—E. B. P.]

“About the year 1884 a discussion arose in the Bombay papers as to whether birds preyed on butterflies, and the general opinion expressed was that it was comparatively rare for them to do so. In common with some other members of the Bombay Natural History Society, I determined to watch and note the results. My records taken from old diaries are as follows:—

1884.

Neighbourhood of Poona and Aden. None.

1885.

Sept. 23. Aden, Campbellpore, and Murree Hills. Road up Thundiani, near the Kala Pani Bungalow. Saw a young king-crow, *Dicrurus ater*, stoop at a big blue *Papilio*, either *P. polyctor* or *P. arcturus*, and miss it. The bird did not repeat the attempt.

1886.

Sept. 2. Campbellpore, Thundiani, etc. Road up Thundiani, near top of the hill. Saw a young king-crow stoop at a specimen of *Vanessa kaschmirensis*, and after missing it once take it at the second attempt. Did not notice whether the insect was eaten.

1887.

Rawul Pindi and home, *vis à* Japan and America. None.

1888-9.

At home.

1890.

June. Ceylon, Trinkomali. No record.

1891.

Nov. 14. On the Kandy Road between Trinkomali and Kanthalai: butterflies in great numbers sitting on the wet mud by the roadside; chiefly *Pierinæ* (*Catophaga*), but a few *P. nomius* with them. These butterflies rose in clouds as one drove past. A bee-eater, *Merops philippinus*, kept flying in front of my carriage and taking specimens of these butterflies as they rose. The bird seemed to select the yellow females, which are rare, the white females being to them probably in the proportion of 100 to 1. These flocks of butterflies often unite and form what are known as snowstorms in Ceylon; they then migrate right across the island.

"These bee-eaters were often seen catching *Pierinæ*; in fact, it seems to have occurred so often that I ceased to record the fact, for I can only find this one reference. Probably the attacks were always witnessed at the beginning of the N.E. monsoons during the time of the heavy rains, *i.e.* September to December.

"I am not certain as to the date on which I saw the Ashy swallow-shrike (*Artamus fuscus*) catching specimens of the *Euplœa Crastia core*. The fact is associated in my mind with a particular place, and with the capture of *Charaxes psaphon* ♀ there. This is recorded for April 12th, 1891, so this may be the correct date on which I watched the bird. At least six specimens of the *Crastia* were captured by the shrike, all of which it carried away to a branch high up in a big tree, but I could not see whether they were eaten.

"As regards my experience of birds catching butterflies, it appears to have occurred more frequently in damp than in dry districts; *e.g.* it was frequent in Ceylon, rare in

places with moderate or small rainfall, such as Campbell-pore, Poona, and Aden.

"In my opinion an all-sufficient reason for the rarity of the occurrence exists in the fact that in butterflies the edible matter is a minimum, while the inedible wings, etc., are a maximum."

[See Proc. Zool. Soc. 1887, p. 210, where Lepidoptera and especially butterflies are spoken of in almost exactly these terms, as a suggested explanation of the fact that lizards, although they eat them, greatly prefer flies or cryptic larvæ.—E. B. P.]

14. RECORDS OF ATTACKS ON BUTTERFLIES, ETC., BY
WILD BURMESE BIRDS, BY COLONEL C. T. BINGHAM.

[Colonel Bingham has kindly sent me the following extracts from his 1878 diaries, for incorporation in the present memoir.—E. B. P.]

"April 23.—Marched from Kawkaraik to Thinganyinaung, fourteen miles. Started about 7.45, rather late as there was some difficulty in collecting the elephants this morning. . . . The road, a mere jungle path, followed the course of the Akya Chaung, a feeder of the Haundraw River, and crossed the little stream some twenty or more times in the first six or seven miles before turning up the hill to the Taungyah Pass in the Dawnat Range. From the outskirts of Kawkaraik right up to Thinganyinaung on the other side of the pass, the road goes through dense evergreen forest, and consequently the collecting is very good on this road, both for insects and birds. To-day, the day being hot, butterflies, bees, and dragon-flies swarmed, and at every opening of the Chaung I found crowds seated on the damp sand apparently sucking up the moisture. Collecting as I went, it was past 11 o'clock before I got to the foot of the Pass. I was hot and a bit tired, so I sat down on a fallen tree to rest, just before crossing the Akya Chaung for the last time. I had not been seated many minutes looking at the swarms of butterflies, bees, and dragon-flies, which were flitting about or sitting on the sands, when my attention was attracted by a bird, a bee-eater (*Merops swinhoei*), which swooping down from a tree overhead caught a butterfly, a *Cyrestis*, within a few paces of me. The bee-eater seemed to catch the butterfly with ease, and I distinctly heard the snap of its bill. Then holding the butterfly crossways the bird flew back to the